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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,251	06/23/2003	Jurgen Otto Besenhard	LEE-0001	1932

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EXAMINER	
JOLLEY, KIRSTEN	
ART UNIT	PAPER NUMBER
1762	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/602,251	BESENHARD ET AL.	
	Examiner	Art Unit	
	Kirsten C. Jolley	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16 and 19-27* is/are pending in the application.

4a) Of the above claim(s) *4,6,10-12,14,15 and 21-27* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,7-9,13,16,19 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/30/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-3, 5, 7-9, 13, 16, and 19-20 are examined herein, and claims 4, 6, 10-12, 14-15, and 21-27 have been withdrawn from consideration.

2. It is noted that the text of claim 17 should not be included since the claim has been canceled.

Response to Arguments

3. The obviousness-type double patenting rejections and 35 USC 102(a) rejections have been withdrawn in response to the amendments to the claims and Applicant's arguments thereto.

4. Applicant's arguments with respect to the claims and the amendments therein have been considered and the 35 USC 102(b) rejections over Besenhard et al. have been withdrawn. The amended claims are now rejected over Miyaki et al. taken in view of Besenhard et al. in response to Applicant's arguments that Besenhard does not disclose a method for producing a surface-modified cathode material that can be used as a cathode material for lithium batteries as now claimed. Accordingly, this action is made non-final.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 19-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 19-20 depend from claim 18 which has been canceled.

(It is similarly noted that non-elected claims 21-27 depend from canceled claim 18.)

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-3, 5, 7-9, 13, 16, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyaki et al. (US 2002/0114993) taken in view of Besenhard et al. (US 5,916,485).

Miyaki et al. discloses a method for producing a lithium ion secondary battery comprising a lithium-based cathode. Miyaki et al. teaches that it is desirable to add a protective layer, such as an electrically conducting protective layer, on the cathode layer (Abstract and paragraphs 0022-0027). Miyaki et al. teaches coating successively or simultaneously with the electrode material mixture (paragraph 0059).

Besenhard et al. discloses a method of substrate induced coagulation that produces electrically conductive composites comprising the steps of: contacting a bulk material with a solution containing a solvent and a flocculant so that the flocculant adheres to the bulk, and then contacting the flocculant-treated bulk material with a dispersion containing a second solvent and

a particulate solid particle such that the particulate solid particles deposit on the bulk material. Besenhard et al. teaches that in its method conductivity is achieved using very small amounts of conductive material, which interferes less with the properties of the substrate. Besenhard et al. specifically teaches that its method is useful in forming battery electrodes, and reduces the proportion of electrochemically active components lowering the energy density (col. 7, lines 19-21 and col. 8, lines 4-11). Further it is noted that Besenhard et al. teaches that its method may be used on practically all substrate materials (col. 5, lines 11-20).

It is the Examiner's position that the references taken in combination would have suggested to one having ordinary skill in the art to use Besenhard et al.'s substrate induced coagulation method to adhere an electrically conducting protective layer, or other protective layer, to Miyaki et al.'s particulate cathode material in order to obtain the benefit of using very small amounts of conductive material to prevent lowering the energy density of the battery. Further, one would have expected successful results since Besenhard et al. generally states that its method is successful with many different materials and suggests use in forming battery electrodes. The test of obviousness is not express suggestion of the claimed invention in any or all references but rather what the references taken collectively would suggest to those of ordinary skill in the art presumed to be familiar with them. *In re Rosselet*, 347 F.2d 847, 146 USPQ 183 (CCPA 1965); *In re Hedges*, 783 F.2d 1038.

As to the heat treatment step, it is noted that Miyaki et al. teaches that the cathode materials with protective layers thereon are subjected to drying after application (see Example 1). Paragraph 0460 states that drying may comprise hot air drying at elevated temperatures.

As to claim 2, the process of Miyaki et al. in view of Besenhard et al. would produce core-shell materials with distinct phases.

As to claim 3, Besenhard et al. teaches the use of aqueous solvents in its substrate induced coagulation process.

As to claim 5, Besenhard et al.'s polymer may be gelatin, a water-soluble protein.

As to claims 7-9, both Miyaki et al. and Besenhard et al. teach the use of "mixed" coatings which contain different particles. Besenhard et al. also teaches the creation of "thick" coatings made by repeating the coating steps (col. 6, lines 61-64).

As to claims 16 and 20, Miyaki et al. teaches the use of titanium dioxide or alumina as the particulate protective layer (paragraphs 0017-0018 and 0026), as well as other of the claimed materials.

As to claim 19, Miyaki et al. teaches that the claimed cathode bulk materials in paragraphs 0421 to 0427.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten C. Jolley whose telephone number is 571-272-1421. The examiner can normally be reached on Monday to Wednesday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kirsten C Jolley
Primary Examiner
Art Unit 1762

kcj